



CLAIMS

1/ A time-shared communications architecture for communicating digitized information for an industrial process control system, which architecture is organized around at least one industrial local area network (6) conveying deterministic traffic between various programmed operating units (11, 10, 8, 4'), which units process and store information which can be accessed by at least one other programmed operating unit (11, 10) via said architecture, said architecture being characterized in that it includes various programmed operating units (10, 8, 4') in particular comprising units situated at an intermediate level (8) or at a process interface level or at a site monitoring/control device level (4'), which

✓ 15 ✓ units individually include servers (9) of the HTTP type so as to be capable of sending optionally interactive computer documents in response to requests received from another unit (11) of the system or from a computer, in particular external to the system, equipped with an

20 HTTP/TCP/IP protocol stack and acting as a customer, in the context of messaging traffic making use of the

✓ ✓ transmission possibilities constituted by the time slots left available by the deterministic traffic of the industrial local area network(s). (6, 6') of the system,

25 ✓ without disturbing the priority interchange related to the real time control of the process.

2/ An architecture according to claim 1, for an industrial process control system, in which programmed site units (18, 18', 18", 18'', 18''') are organized in one or more clusters around at least one industrial local

✓ S area network (19) of the site bus type which is specific to a cluster and which connects the units of the cluster

✓ ✓ to at least one shared programmed unit (17), optionally serving as a gateway or as a router to another industrial local area network (20) serving at least one other

10 programmed unit (14, 15) of a higher level of the

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✓₁₃ architecture, in particular a supervision unit and/or a unit serving as a gateway to an external communications network (0), so that the HTTP server of a cluster unit equipped with such a server responds with an optionally 5 interactive computer document if a request is addressed to it, via at least one of the networks, by another unit or by a computer, in particular external to the system, equipped with an HTTP/TCP/IP protocol stack and acting as a customer, when the request concerns inserting or 10 extracting parameters and/or variables stored at the unit ✓₂₁ that includes said server.

3/ A method of communicating information for an industrial process control system, in which method 15 digitized information that is necessary to control the industrial process is interchanged in real time and in a manner internal to the system over at least one site network, in a deterministic mode, between at least one site device such as a sensor or an actuator, and at least 20 one intermediate-level programmed operating unit or at least one higher-level programmed operating unit, said method being characterized by the fact that, in order to enable a user external to the system to access information stored in said site device or in said 25 programmed operating units via an Internet or Intranet type network connected to one of the units, interchange ↘ is performed using the HTTP/TCP/IP protocol between the device in which said information is stored, which device may be a site device or an operating unit, and the 30 intermediate-level or higher-level operating unit to which the Intranet or Internet network is connected, for available time slots provided over the site network by the deterministic interchange mode.

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